

4. On a small Collection of Lepidoptera from Jamaica. By
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The Lepidoptera enumerated in the present paper were collected at or near Kingstown, Jamaica, by Mr. James John Bowrey, who has kindly permitted a selection to be made from them of all the species required for the national collection.

Among the Butterflies, as might have been expected, there is very little new, a species of *Pamphila* being the only one to which I have ventured to give a name; but among the more obscure and small Moths there are about two dozen novelties.

RHOPALOCERA.

1. *DANAIS ARCHIPPUS*, Fabricius, Ent. Syst. iii. 1, p. 49 (1793).

The males from Jamaica seem to possess a constant peculiarity in the immaculate black border of the secondaries.

2. *DANAIS JAMAICENSIS*, Bates, Ent. Mo. Mag. i. p. 33 (1864).

3. *CALISTO ZANGIS*, Fabricius, Syst. Ent. p. 486 (1775).

4. *PAPHIA PORTIA*, Fabricius, Syst. Ent. p. 507 (1775).

5. *AGANISTHOS ORION*, Fabricius, Syst. Ent. p. 485 (1775).

6. *HETEROCHROA ABYLA*, Hewitson, Ann. Nat. Hist. ser. 2, vol. vi. pl. 9. fig. 7 (1850).

7. *EUBAGIS EGÆA*, Fabricius, Syst. Ent. p. 496 (1775).

8. *LUCINIA CADMA*, Drury, Ill. Ex. Ent. ii. pl. 18. figs. 1, 2 (1773).

9. *MARPESIA ELEUCHA*, Hübner, Samml. exot. Schm. ii. pl. 50 (1816-24).

10. *GYNÆCIA DIRCE*, Linnæus, Mus. Lud. Ulr. p. 287 (1764).

11. *ANARTIA JATROPHÆ*, Linnæus, Mus. Lud. Ulr. p. 289 (1764).

12. *JUNONIA GENOVEVA*, Cramer, Pap. Exot. iv. pl. 290. figs. E, F (1782).

13. *CYSTINEURA DORCAS*, Fabricius, Syst. Ent. p. 508 (1775).

14. *PHYCIODES FRISIA*, Poey, Cent. Lep. (1833?).

15. *EUNICA TATILA*, Herrich-Schäffer, Ausl. Schm. figs. 69-72 (1852-58).

In the examples from Jamaica the white spots are smaller than in the figure.

16. EUPTOIETA HEGESIA, Cramer, Pap. Exot. iii. pl. 209. figs. E, F (1782).

17. DIONE VANILLÆ, Linnæus, Mus. Lud. Ulr. p. 306 (1764).

18. COLÆNIS DELILA, Fabricius, Syst. Ent. p. 510 (1775).

19. HELICONIUS CHARITHONIA, Linnæus, Syst. Nat. i. 2, p. 757 (1766).

20. LAMPIDES CERAUNUS, Fabricius, Ent. Syst. iii. 1, p. 303 (1793).

21. TMOLUS COLUMELLA, Fabricius, Ent. Syst. iii. 1, p. 282 (1793).

22. TMOLUS PAN, Drury, Ill. Ex. Ent. ii. pl. 23. figs 3, 4 (1773).

23. NATHALIS IOLE, Boisduval, Sp. Gén. i. p. 589 (1836).

24. TERIAS GNATHENE, Boisduval, Sp. Gén. i. p. 680 (1836).

Mr. Bowrey has observed this species flying over low bushes. The flight of *Terias* is always very low.

25. TERIAS ELATHEA, Cramer, Pap. Exot. ii. pl. 99. figs. C, D (1779).

26. TERIAS EUTERPE, Ménétréés, Bull. Mosc. p. 299 (1832).

27. KRICOGONIA TERISSA, Lucas, Rev. Zool. p. 429 (1852).

28. KRICOGONIA LYSIDE, Godart, Enc. Méth. ix. p. 98 (1819).

29. AMYNTHIA MÆRULA, Fabricius, Syst. Ent. p. 479 (1775).

30. CALLIDRYAS SENNÆ, Linnæus, Syst. Nat. i. 2, p. 764 (1766).

Mr. Bowrey has seen vast clouds of this species passing over the town of Kingston, sometimes for a week at a time.

31. APPIAS POEYI, Butler, P. Z. S. p. 49 (1872).

32. SYNCHLOË JOPPA, Boisduval, Sp. Gén. i. p. 495 (1836).

33. PAPILIO POLYDAMAS, Linnæus, Mus. Lud. Ulr. p. 192 (1764).

34. PAPILIO SINON, Fabricius, Syst. Ent. p. 452 (1775).

35. PAPILIO PELAUS, Fabricius, Syst. Ent. p. 444 (1775).

36. PAPILIO HOMERUS, Fabricius, Ent. Syst. iii. 1, p. 29 (1793).

37. PAPILIO CRESFONTÈS, Cramer, Pap. Exot. ii. pl. 165. fig. A, 166. fig. B (1779).

38. PAPILIO THERSITES, Fabricius, Syst. Ent. p. 453 (1775).

39. GONIURUS PROTEUS, Linnæus, Mus. Lud. Ulr. p. 333 (1764).

40. *GONIURUS CATILLUS*, Cramer, Pap. Exot. iii. pl. 260. figs. F, G (1782).

41. *TELEGONUS*, sp.? (Olive-brown, dull green at the base.)

This species is quite common in collections, and therefore is sure to have been described; but it would be necessary to work out nearly the whole family in order to identify it, many of the descriptions of *Hesperiidæ* being so bad that their determination is simply impossible.

42. *PROTEIDES AMYNTAS*, Fabricius, Syst. Ent. p. 533 (1775).

43. *PAMPHILA ETHLIUS*, Cramer, Pap. Exot. iv. pl. 392, figs. A, B (1782).

44. *PAMPHILA NYCTELIUS*, Latreille, Enc. Méth. ix. p. 746 (1823).

45. *PAMPHILA PHYLUS*, Drury, Ill. Ex. Ent. i. pl. 13. figs. 4, 5 (1773).

46. *PAMPHILA UTHA*, Hewitson, Descr. Hesp. p. 37. n. 32 (1868).

The form from Jamaica being rather different from that of St. Domingo (and probably of Cuba), I append a description.

Wings above bright tawny, reddish at the base; a broad chocolate brown marginal belt from the end of the cell of each wing round the outer border to the external or anal angle, where the fringe becomes tawny; primaries with a large dark brown spot across the median vein; head and collar metallic green, bordered and crossed by testaceous lines of upright scales; remainder of the body above dull tawny, slightly olivaceous in front, yellowish below, with blackish spots down the centre of the venter. Primaries below with the disk of a yellower tint than above; the blackish median spot extended to the base, a blackish spot beyond the cell; outer border broadly brown, becoming ferruginous upon the costa; secondaries ferruginous, with a spot in the cell and a squamose angulated discal belt more or less orange; anal fringe bright orange. Expanse 2 inches.

I have to thank Mr. Du Cane Godman for the identification of this handsome species. I think it may be the insect intended by the description of *Eudamus capucinus*, Lefebvre; but the Latin of that description cannot be translated. It runs thus:—" *E. alis paululum subrotundatis, supra piceo-fuscis ad basin ochraceo-rubrescentibus; anticis in mare supra arcu minuto subtus macula fere dubia, in disco luteis (femine utrinque maculis duabus geminis eodem colore) nervula sectis; subtus anticis ad basin et disco inferiori nigris; omnibus alis fuscis atomis rubris griseisque omnino rubrescentibus.*"

The whole of the descriptions of Lepidoptera in Ramon de la Sagra's 'Cuba' are of this character. *E. trinitad* is said to have three front wings on each side, with transparent unequal and yellowish spots, "*anticis utrinque tribus maculis translucidis inæquali-*

bus et flavescens;" and although in this case it is evident what is intended, in other cases it is not so¹. Surely where a Latin diagnosis defies all possibility of translation it ought to be ignored.

47. *PAMPHILA INSOLATA*, n. sp.

♂. Primaries bronzy chocolate-brown, with tawny basal area; a large black patch below the cell, its anterior border embossed and greyish: secondaries tawny ochraceous; the costal area, outer border, and veins blackish: body greenish, abdomen dull tawny, palpi below sulphur-yellow; legs tawny. Wings below sordid ochraceous; primaries with the basal half of a brighter tint, the interno-basal area and a spot below the cell blackish; internal border dark greyish. Expanse 1 inch 8 lines.

Quite unlike any other species known to me.

48. *PAMPHILA OTHO*, Smith & Abbot, Lep. Ins. Georg. i. pl. 11 (1797).

49. *ACHLYODES POTRILLO*?, Lefebvre, Ramon de la Sagra's Cuba, p. 641 (1857).

The single example taken by Mr. Bowrey has only four hyaline apical dots on each of the primaries; but this may be what is intended by "anticis ad apicem 8 punctis translucensibus albis circulatim dispositis," the only difficulty being the arrangement of four dots so as to produce a circle.

HETEROCERA.

50. *ENYO CAMERTUS*, Cramer, Pap. Exot. iii. pl. 225. fig. A (1782).

51. *CHÆROCAMPA CHIRON*, Drury, Ill. Ex. Ent. i. pl. 26. fig. 3 (1770).

52. *DEILEPHILA LINEATA*, Fabricius, Ent. Syst. iii. p. 541 (1775).

53. *PHILAMPELUS SATELLITIA*, Linnæus, Mantissa, i. p. 539 (1771).

54. *PACHYLIA FICUS*, Linnæus, Mns. Lud. Ulr. p. 352 (1764).

55. *AMBULYX STRIGILIS*, Linnæus, Mantissa, i. p. 538 (1771).

56. *AMPHONYX CLUENTIUS*, Cramer, Pap. Exot. i. p. 124, pl. 78. fig. B (1779).

57. *ANCERYX FASCIATA*, Swainson, Zool. Ill. 2nd ser. vol. iii. pl. 150 (1823).

58. *DILOPHONOTA ELLO*, Linnæus, Mns. Lud. Ulr. p. 351 (1764).

¹ Examine the description of *Hesperia baracoa* as an example.

59. *DILOPHONOTA ÆNOTRUS*, Cramer, Pap. Exot. iv. pl. 201. fig. C (1782).

60. *DILOPHONOTA OMPHALEÆ*, Boisduval, Léop. Guat. p. 72 (1870).

61. *PROTOPARCE RUSTICA*, Fabricius, Syst. Ent. p. 540 (1775).

62. *PROTOPARCE JAMAICENSIS*, Butler, Trans. Zool. Soc. ix. p. 608 (1876).

63. *PROTOPARCE CINGULATA*, Fabricius, Syst. Ent. p. 545 (1775).

64. *PSEUDOSPHEX TETRIO*, Linnæus, Mantissa, i. p. 538 (1771).

The larva of *P. tetrio* is well known to Mr. Bowrey, who describes it as "black with yellow bands, and with the head, feet, anal claspers, and horn scarlet."

65. *COSMOSOMA TYRRHENE*, Hübner, Samml. ex. Schm. Zutr. figs. 483, 484.

66. *COSMOSOMA AUGÆ*, Linnæus, Syst. Nat. ii. p. 807. n. 46 (1766).

67. *EMPYREUMA PUGIONE*, Linnæus, Syst. Nat. ii. p. 807. n. 45 (1766).

68. *ARE MARGINATA*, Drury, Ill. Ex. Ent. ii. pl. 22. fig. 2 (1773).

69. *COMPOSIA SYBARIS*, Cramer, Pap. Exot. i. pl. 71. fig. E (1779).

70. *EUCHÆTES INSULATA*, Walker, Lep. Het. iii. p. 734. n. 5 (1855).

71. *DEIOPEIA SPECIOSA*, Walker, Lep. Het. ii. p. 568 (1854).

Common in grass. The larva much resembles that of our European *Callimorpha jacobææ*: it is orange, banded with warty-black bands, and with rather long black bristles projecting from the warts; head and legs reddish.

72. *CINCIA PALLIDA*, n. sp.

Primaries white, with cream-coloured veins, a black dot at the base; four oblique parallel equidistant angular series of black dots, also a marginal series; secondaries pearly grey; head and collar white; thorax white dotted with black; abdomen pearly grey. Under surface pale greyish, the spots obsolete; costal margin of primaries white, with three pale brown spots beyond the middle; body whitish. Expanse 1 inch 1 line.

73. *MULONA LAPIDARIA*, Walker, Lep. Het. Suppl. v. p. 1896 (1866).

74. *GLISSA VARIEGATA*, Walker, Lep. Het. ii. p. 380 (1854).

This beautiful little species seems to be not uncommon. Mr. Bowrey found it settled on the under surface of the leaves of coffee.

75. *LAURONA ERGOLIS*, Walker, Lep. Het. ii. p. 335 (1854).

This common species is said to have a hairy caterpillar.

76. *EUTHISANOTIA TIMAIS*, Cramer, Pap. Exot. iii. pl. 275. fig. B (1782).

77. *EUGLYPHIA HIEROGLYPHICA*, Cramer, Pap. Exot. ii. pl. 147. fig. D (1779).

The larva of this species, which is slightly hairy, feeds on lilies.

78. *OCHRIA NIVEOPICTA*, n. sp.

Primaries above deep coppery red; the orbicular and reniform spots represented by circles of white dots enclosing white spots; costal margin white-dotted; a few scattered white dots on basal area, a discal series and a marginal series; a submarginal series of white spots: secondaries shining brown, slightly darker at outer border: body corresponding in colour with the wings. Under surface pinky brown; internal areas of the wings more or less broadly white; primaries with pale discocellular spot and outer border. Expanse 1 inch 4 lines.

79. *PRODENIA IGNOBILIS*, n. sp.

Primaries above shining whity brown; costal margin whitish, crossed by oblique brown spots; two black dots and a small brown spot at the end of the cell; a double discal series of black dots on the veins; an ill-defined series of internervular bronzy streaks; an oblique bronzy streak from the second median interspace to near the base of the inner margin, where it terminates in a black line; a marginal series of black dots; fringe bronzy, crossed by white lines from the ends of the veins, and with a white internal margin: secondaries semitransparent opaline white: body pale brown, the head, collar, and tegulæ whitish; a darker brown patch on each side of the collar. Wings below white, most of the markings obsolete; primaries sericeous, with bronzy-tinted fringe and costa; a marginal series of black dots; body below whitish, varied with pale reddish brown. Expanse 1 inch 3 lines.

This species and the next have the general aspect of *Leucania*.

80. *PRODENIA PAUPER*, n. sp.

Primaries above shining whity brown, with five or six black costal dots and three (indicating the reniform spot) at the end of the cell; an arched discal series of minute black dots on the veins; outer border rather dusky; a marginal series of minute black dots: secondaries semitransparent opaline white; the apex with a brown marginal line; costal area pale brown: body whity brown; front of the collar brown, with a black posterior edge. Under surface shining, the markings obsolete. Expanse 1 inch 3 lines.

81. *CONDICA PALPALIS*, Walker, Lep. Het. ix. p. 240 (1856).

82. *APAMEA INTERMITTENS*, Walker, Lep. Het. xv. p. 1686 (1858).

83. *PERIGEIA MOBILIS*, Walker, Lep. Het. x. p. 277 (1856).

84. *HADENA ABIDA*, Felder, Reise der Nov. Lep. iv. pl. 109. fig. 7 (?).

The example from Jamaica has the apices of the primaries rather more rounded and the pattern less strongly indicated than in Felder's figure; still it is so like it that it would be unsafe to regard it as a distinct species.

85. *ELOUSA ALBICANS*, Walker, Lep. Het. xiii. p. 1118 (1857).

This genus is nearly allied to *Erastria*; the same species is described subsequently by Walker under the name of *Erastria includens*.

86. *GONODONTA NUTRIX*, Cramer, Pap. Exot. iv. pl. 312. fig. B (1782).

87. *HYBLÆA PUERA*, Cramer, Pap. Exot. ii. pl. 103. figs. D, E (1779).

88. *COSMOPHILA EROSA*, Hübner, Samml. ex. Schm. Zutr. figs. 287, 288.

89. *DECELEA BOWREYI*, n. sp.

Primaries pale brown mottled with black; a broad central band (the internal third of which is black and the remainder of the ground-colour), limited internally by a black line, and externally by an angulated and slightly irregular white line; a black line across the base, terminating on interno-median area in a triangular black patch; several black costal dashes and an oblique black line from the costa across the central band; a subcostal greyish lunule partly bordered by pearly scales beyond the central band; a very irregular dentate-sinuate whity-brown discal stripe with dark borders; a sub-marginal series of black bracket-like markings separated by white dots upon the veins; fringe spotted with dark brown: secondaries reddish brown, darker towards the outer border; a black sinuated marginal line interrupted on the veins by white dots; fringe pale brown, bordered and intersected by parallel dusky lunules: body pale brown speckled with black; collar with an ill-defined central black line, the border pearly; a few pearly whitish scales scattered over the thorax; abdomen with three very prominent dark brown dorsal tufts or masses of scales. Primaries below pale olive-brown slightly sericeous; a black costal spot before the middle, and a second smaller one beyond the middle; the remainder of the costa alternately brown and white; disk darker than the rest of the wing, crossed by a nearly straight dusky line, and limited externally by a very irregular dentate-sinuate line; a sinuated black marginal line, interrupted by white dots upon the veins; fringe with red-brown

external spots: secondaries pinky brown, crossed by two dark lines which form a central semicircular area, in the middle of which is the dark discocellular lunule; a dusky submarginal belt; margin and fringe as above: body below pinky-brown; tarsi black, banded with testaceous or pinky whitish. Expanse 1 inch 6 lines.

This singular species has somewhat the aspect of a *Dasychira*; it seems, however, to be allied to the genus *Nænia*.

90. *HOMOPTERA TERROSA*, Guénée, Noct. iii. p. 11. n. 1332 (1852).

Whether Walker has rightly identified this species I cannot say, but his *H. posterior* is the same as his *H. terrosa*.

91. *BOLINA FASCIOLARIS*, Hübner, Samml. ex. Schm. Zutr. figs. 443, 444.

92. *BOLINA CUNEARIS*, Guénée, Noct. iii. p. 70. n. 1414 (1852).

93. *BOLINA PERPENDICULARIS*, Guénée, Noct. iii. p. 65. n. 1404 (1852).

94. *BOLINA EVELINA*, n. sp.

Markings nearly as in *B. ochrodes*, but the primaries slaty grey, the large reniform patch of the same colour, the internal two thirds of the central band whity brown mottled with greyish brown; two triangular black subcostal spots resting upon the inner margin of the trisinate red-brown discal stripe; external area soft silver-grey; marginal line yellowish; fringe brown, white at external angle; secondaries with the basal half and fringe white, the external half black; thorax lilacine, abdomen grey. Wings below with the basal half and fringe white, the external half blackish; primaries with a white spot just beyond the cell; fringes tipped with black; body white; the palpi and legs fringed with pink. Expanse 1 inch 9 lines.

Most like *B. agrotoides* in the pattern and coloration of the primaries.

95. *BOLINA? CONFIRMANS*, Walker, Lep. Het. xiii. p. 1157. n. 25 (1857).

This species would, in my opinion, be better placed with *Biula*. I can find no difference whatever between *Syneda limbolaris* (a species much like a *Bolina*) and *Grammodes grandirena* of Walker's Catalogue.

96. *PEOSINA NUMERIA*, Drury, Ill. Ex. Ent. i. pl. 23. fig. 5 (1770).

The species from Venezuela is quite distinct, the specimens from St. Domingo identified by Walker as *P. mexicana* being referable to *P. numeria*. For Walker's *P. numeria* I would propose the name of *Hypogramma confusa*; it is nearly allied to *Hypogramma sublucida*.

97. *THYSANIA ZENOBIA*, Cramer, Pap. Exot. ii. pl. 115. A, B (1779).

98. *EREBUS ODORA*, Linnæus, Syst. Nat. ii. p. 811. n. 11 (1766).

The chrysalis of this species is enclosed in a slight cocoon, to which leaves are attached.

It appears to me that at least five species have been confounded under this name; of these three are already figured as follows:—

1. *E. odora* of Linnæus, in which both sexes are alike in general pattern and both shot with purple; Drury's figure represents a specimen in which the purple seems to have faded. Jamaica and St. Domingo.

2. *E. odorata* of Clerk, in which both sexes are again alike, but different from *E. odora*, a strongly dentate whitish belt intersected by black lines running through both wings. St. Domingo and New Granada.

3. *E. agarista* of Cramer, in which the male has a pale discal sinuated belt, and the wings from the centre shot with rose-colour; whilst the female has the belt snow-white, intersected by black lines and a feeble lilacine tint beyond the centre of the wings. Brazil.

E. agarista is the most richly-coloured species.

We also have a female from Havannah, which is certainly different, and examples of a species which seems to be distinct from St. Kitts, Nevis, and New Granada.

99. *PHURYS GARNOTI*, Guénée, Noct. iii. p. 307 (1852).

In my opinion this species would be better placed in *Trigonodes* than in *Phurys*.

100. *ACHÆA INDISTINCTA*, n. sp.

Primaries red-brown, the base and a diffused belt beyond the middle paler; a nearly triangular subapical costal chocolate-brown patch bounded externally by a white line; an apical dark-brown spot; costa greyish: secondaries smoky brown, crossed at the middle by a whitish stripe; fringe white; a submarginal sordid white spot near the anal angle: body whitish. Wings below pale olive-brown, with the basal area whitish; primaries with an abbreviated sordid white discal band; a bifid subapical white spot: secondaries with brown discocellulars, followed by a white central band; a marginal sub-anal white spot; fringe snow-white: body creamy-white. Expanse 1 inch 9 lines.

Allied to *A. cyllota*.

101. *POAPHILA CINEREA*, n. sp.

Ashy grey, wings with diffused chocolate-brown external area; a faint indication of an irregular central belt, expressed by zigzag limiting lines; an indistinct grey zigzag discal line across the brown area; primaries with a white spot at the inferior angle of the discoidal cell. Under surface paler; the outer edge of the indistinct

central belt relieved by a whitish border; primaries without the white spot; secondaries with an ill-defined dusky discal belt; fringe white. Expanse 1 inch 3 lines.

102. *REMIGIA DISSEVERANS*, Walker, Lep. Het. xiv. p. 1495 (1857).

This species is identical with *R. persubtilis* of Walker, and allied to his *Ophiusa delinquens*.

103. *RHESCIPIHA ELEGANS*, n. sp.

Allied to *R. servia*, but with narrower wings, the palpi much more slender; the primaries with less distinctly sinuated margin; a small white dot on lower median interspace close to the margin; no yellow spots; secondaries pale reddish instead of smoky brown, the base and costal area white; thorax burnt-sienna red like the primaries; abdomen very pale brown, almost white: wings below much whiter than in *R. servia*; body below snow-white, palpi and tibiæ of anterior and middle pairs of legs brown. Expanse 1 inch 7 lines.

I find that the genus *Rhescipha* is most nearly allied to *Tetratocera*.

104. *THERMESIA GEMMATALIS*, Guénée, Noct. iii. p. 355. n. 1828 (1852).

105. *AZAZIA MONSTRATURA*, Walker, Lep. Het. xv. p. 1564 (1858).

This species is certainly nearer to *Azazia* than to *Thermesia*, with which genus Walker placed it.

The following genus has been a puzzle to me; but it appears to be more nearly allied to *Euclidia* than to any thing else.

CALLISCOTUS, n. gen.

Form and general structure of *Euclidia*, but the body less robust, the palpi shorter, with very short terminal joint, porrect; abdomen shorter; primaries comparatively longer; subcostal branches of secondaries emitted from a footstalk; discocellulars concave but very oblique. Type *C. bowreyi*.

106. *CALLISCOTUS BOWREYI*, n. sp.

Primaries pale brown, crossed by numerous irregularly dentate-sinuate black lines; a broad dark-brown subbasal belt, beyond which are two large patches a little paler than the ground-colour, outlined in black; in the middle of the upper one is a small ocellus, representing the reniform spot, and pale brown edged with black and encircled by a yellowish iris; a few scattered white scales on the external area; subapical area dusky; a dentate-sinuate pale line, white, and followed by triangular black spots between the veins; an interrupted black marginal line: secondaries fuliginous brown, with dusky external border; a dark angulated discal stripe and a blackish anal spot: body whitly brown. Wings below whitly brown,

with discocellular spots, angulated discal stripes, and external borders black; the apices, a triangular spot at the centre of each outer margin, the fringes, and some spots at the anal angle of secondaries white; body below whitish. Expanse 1 inch 7 lines.

A pretty species, somewhat calling to mind the Geometrid genus *Scotosia*.

107. *CAPNODES? CALIDA*, n. sp.

Bright clay-colour; wings with two very irregular central brown-bordered whitish dentate-sinuate lines from costa to inner margin, each dens terminating in a white dot; outer border red-brown, bounded internally by a pale zigzag line; a nearly marginal series of dots black internally and white externally: primaries with a snow-white spot and one or two dots at the end of the cell; secondaries with a black-centred whitish spot at the end of the cell. Wings below considerably paler and irrorated with smoky brown; secondaries whitish towards the base and inner border, the spots at the end of the cell less strongly defined than above, the lines obsolete. Expanse 1 inch 2 lines.

This species has rather long palpi for a *Capnodes*, but in general form, style of coloration, and every thing else agrees with that genus.

108. *URANIA SLOANUS*, Cramer, Pap. Exot. i. pl. 85. figs. E, F (1779).

109. *NYCTALÆMON ÆGISTUS*, Fabricius, Mant. Ins. ii. p. 10. n. 93.

110. *CHÆRODES TRANSTINCTA*, var., Walker, Lep. Het. xx. p. 20 (1860).

111. *DREPANODES PIONARIA*, var., Walker, Lep. Het. xx. p. 71 (1860).

112. *BOARMIA DELICATA*, n. sp.

Wings above chalky white; the basal area and disk of primaries, and the external half of secondaries, crossed by parallel undulated testaceous bands; a well-defined zigzag stripe across the middle of the disk; two central angulated slender black lines, between which is a black discocellular annulus on each wing; a marginal series of black dots: body white; abdomen banded with testaceous. Under surface white; wings with black discocellular spots, pale greyish-brown discal belt, and black marginal dots; primaries with the costa black-spotted. Expanse 1 inch 6 lines.

113. *AMPHIDASYS ARNOBIA*, Cramer, Pap. Exot. iv. pl. 383. fig. I (1782).

114. *JODIS KINSTONENSIS*, n. sp.

Wings above emerald-green, crossed by a wavy yellowish discal line; fringes lemon-yellow, tipped with white; discocellular spots

black, encircled with orange: frons deep red, with white angles and a central longitudinal green stripe; crest deep red, speckled with white; antennæ deep red, annulated with white; back of head, collar, and tegulæ emerald-green; thorax and abdomen pale pinky brown or flesh-colour. Wings below much paler than above, especially at outer margin, sericeous; primaries with a small red apical spot; palpi above dark red tipped with white, below pearly white; pectus snow-white, legs and venter pearly white. Expanse 1 inch 1 line.

115. *MECOCERAS BITACTARIA*, Walker, Lep. Het. xxii. p. 607 (1861).

116. *HYRIA VINACEA*, n. sp.

Laky purple, with rather broad ochreous outer border, between which and the general colour is a belt, reddish externally and slaty grey internally; abdomen with ochreous margins: wings below paler than above, the border cream-coloured; body below cream-coloured. Expanse 7 lines.

A pretty little species.

117. *EROSIA INCONGRUA*, n. sp.

Sordid white, reticulated and speckled with brown: primaries with the base of costa cinereous; an irregularly elbowed testaceous line across the basal third; an angulated dark brown discal line (blood-red in certain lights), terminating on inner margin in a semi-circular brown spot; four submarginal brown spots on the apical half of outer border: secondaries with a black-edged sagittiform streak through the cell; a white-edged elbowed blackish line across the disk, bounded internally near the abdominal margin by an oblong patch of red-brown; apical area clouded with reddish brown; border between the caudal processes greyish, black-edged internally; two submarginal black dots on the median interspaces: body white, with grey head and collar. Under surface sordid white, speckled with black. Expanse 9 lines.

118. *ACIDALIA UMBILICATA*, Guénée, Phal. i. p. 504. n. 872 (1857).

119. *ACIDALIA APPARITARIA*, Walker, Lep. Het. xxii. p. 733. n. 145 (1861).

120. *MACARIA ACIDALIATA*?, Walker, Lep. Het. xxiii. p. 893. n. 33 (1861).

There is a broken example of what appears to be a species of *Anisodes*; but I hope Mr. Bowrey will send us a good example some day, and thus enable me to identify it with certainty.

121. *YPSIPETES*? *ANOMALA*, n. sp.

Primaries above with the basal third and costa stramineous, the rest of the wing silvery brown; basal area crossed by sinuated red-

dish ochraceous lines, and the rest of the wing by sepia-brown lines; a discal series of white-edged spots, black on the discoidal interspaces, otherwise brown; median vein and bases of the branches black-spotted: secondaries semitransparent sordid white, with opaque outer border and grey submarginal stripe: body stramineous, streaked with reddish ochraceous. Wings below cream-coloured, with greyish-brown submarginal belt; body white. Expanse 1 inch.

The only example obtained of this singular species is, unfortunately, rather rubbed.

122. *SCOTOSIA CATOCALARIA*, Walker, Lep. Het. xxxv. p. 1689 (1866).

123. *PTEROCYPHA STELLATA*, Guénée, Phal. ii. p. 443. n. 1627 (1857).

124. *HYPOSIDRA OCHREA*, n. sp.

Ochreous; wings with a silvery gloss, excepting the outer border, a discal belt, and a costal dash upon the primaries, which are of a clearer yellow colour; primaries with the lower half of the discal belt edged externally with orange and plumbaginous; edge of fringe orange: secondaries with two parallel zigzag purplish-brown streaks across the abdominal half, the upper streak intersected by a plumbaginous line; edge of fringe orange: head brown. Wings below bright ochreous, with an oblique discal purplish streak; primaries with diffused silvery-whitish external area; pectus whitish, legs testaceous. Expanse 1 inch 3 lines.

I have to thank Mr. F. Moore for the identification of this genus, the type of which is a Javan species, not in the Museum collection.

125. *HYPENA LUNIFERA*, n. sp.

Primaries above lilacine brown, crossed by two slender blackish zigzag lines, between which is an orange lunule, with its inferior extremity white and edged with black, representing the reniform spot; an orange dot at the costal extremity of the second black line, and two subcostal dots of the same colour close to apex; a marginal series of black dots: secondaries pale smoky brown, darker towards the outer margin, crossed at the middle by an arched series of black spots; a marginal series of black dots: body dark brown, back of thorax slightly lilacine. Primaries below greyish brown; costal area speckled with white brown; the discocellulars and an arched discal series of spots dusky; a marginal series of depressed triangular spots: secondaries sordid white, speckled with dark brown; a black discocellular lunule; two discal parallel zigzag dark brown lines, the outer one ill-defined; a marginal series of black spots, as in primaries; pectus smoky brown. Expanse 1 inch.

126. *SYNGAMIA FLORELLA*, Cramer, Pap. Exot. iv. pl. 348. fig. L (1782).

127. *DESMIA ORBALIS*, Guénée, Delt. p. 192. n. 128 (1854).

128. *DESMIA PROGNEALIS*, Walker, Lep. Het. xvii. p. 346. n. 22 (1859).

129. *SAMEA CHLOROPHASMA*, n. sp.

Wings hyaline, slightly yellowish, with stramineous borders; outer border spotted with rust-red; primaries with three mustard-yellow irregular lines across the basal area, followed by a straight golden brown transverse line, then a stramineous belt margined with brown, followed by a quadrate spot of the same character at the end of the cell (its inner edge continued as a single line to internal margin); an angulated brown discal line, terminating at inner margin in a rusty reddish spot: secondaries with a black-edged stramineous discocellular spot, from which a brown line runs obliquely to inner margin; an angulated brown discal line, terminating at anal angle in a quadrate rusty reddish spot: thorax stramineous, streaked with mustard-yellow; abdomen testaceous. Wings below altogether paler than above, the markings less distinct; body below silvery white; palpi yellow; legs cream-coloured. Expanse 10 lines.

A delicate golden-looking little species.

130. *AGATHODES MONSTRALIS*, Guénée, Delt. p. 209. n. 165 (1854).

131. *HYMENIA PERSPECTALIS*, Hübner, Ex. Schm. Zutr. fig. 101.

132. *CONCHYLODES DIPHTHERALIS*, Hübner, Ex. Schm. Zutr. figs. 691, 692.

133. *PHAKELLURA HYALINATA*, Linn. Syst. Nat. iii. 2, p. 873 (1766).

134. *PHAKELLURA NITIDALIS*, Cramer, Pap. Exot. iv. pl. 371. fig. F (1782).

Mr. Bowrey says that he found the species of *Phakellura* feeding upon the flowers of gourds.

135. *MARGARONIA QUADRISTIGMALIS*, Guénée, Delt. p. 304. n. 319 (1854).

136. *BOTYS BUTYROSA*, n. sp.

Wings dull lemon-yellow: primaries with the costa sericeous, a feeble opaline tint beyond the middle, an angular pale brown line across the basal third, and a sickle-shaped pale brown line across the disk; marginal line tawny: secondaries with opaline costal area; marginal line tawny: head and prothorax yellow; rest of the body shining creamy white; abdomen with a yellow dorsal line; projecting frontal tuft white; palpi brown above, white below. Body below pearly white; legs pearly white, with the femora and the anterior tibiæ brown; wings below opaline. Expanse 1 inch 7 lines.

137. *BOTYS LUCILLA*, n. sp.

Bright golden yellow, with a very slight pinky spot; wings with the two usual lines greyish; primaries with the discoidal spots represented by grey dots; secondaries with whitish abdominal area; head pearly white; abdomen pale yellow. Wings below paler than above, opaline; body pearly white. Expanse 9 lines.

138. *BOTYS PRINCIPALIS*, Lederer, Wien. ent. Monatschr. vii. pl. 10. fig. 17 (1873).

139. *BOTYS GLAUCUSALIS*, Walker, Lep. Het. xviii. p. 576. n. 51 (1859).

140. *BOTYS AGAVEALIS*, Walker, Lep. Het. xviii. p. 574. n. 47 (1859).

141. *BOTYS EURYTALIS*, Walker, Lep. Het. xviii. p. 576. n. 50 (1859).

142. *BOTYS CAMPALIS*, Guénée, Delt. p. 344. n. 397 (1854).

143. *BOTYS GASTRALIS*, Guénée, Delt. p. 346. n. 400 (1854).

144. *BOTYS ERATALIS*, Walker, Lep. Het. xviii. p. 578. n. 54 (1859).

145. *BOTYS OLIVIA*, n. sp.

Pale olive-brown, with bright bronze reflections; the usual lines grey; orbicular and reniform spots outlined in grey; body greyish brown. Wings below considerably paler, whitish towards the base, sericeous; inner line absent; body white. Expanse 10 lines.

Nearly allied to *B. plebeialis*.

146. *BOTYS HELCITALIS*, Walker, Lep. Het. xviii. p. 574. n. 46 (1859).

147. *MECYNA REVERSALIS*, Guénée, Delt. p. 409. n. 531 (1854).

148. *ANERASTIA IGNOBILIS*, n. sp.

Primaries above pale pinky brownish or flesh-colour, the infero-exterior quarter of the wing slaty grey; the median vein, its two superior branches, the terminal portions of the subcostal branches, the extreme ends of the remaining veins, and the centre of the submedian vein silvery white; an abbreviated longitudinal apical streak and a subcostal streak black; one or two minute black dots on the median and submedian veins: secondaries hyaline, iridescent, with dusky outer border: thorax red-brown, streaked with pinky white; head and palpi white; abdomen grey. Primaries and body below pale shining brown; secondaries as above. Expanse 11 lines.

149. *ARGYRIA VESTALIS*, n. sp.

Silvery white: primaries with a small triangular spot at the

middle of costa, an oblique dash followed by a triangular spot near apex, and a submarginal stripe, with zigzag inner edge dark chocolate-brown; outer border and fringe pale brown, traversed by two straight dusky lines; a minute brown spot at middle of inner margin: base and sides of palpi chocolate-brown. Below silvery white; the costal area of primaries pale brownish. Expanse 11 millimetres.

Like *A. insons* of Felder, but only half as large; also allied to *A. chrysogyrans*, Walker (MS.?).

150. *CYDOSIA NOBILITELLA*, Cramer, Pap. Exot. iii. pl. 264. fig. G (1782).

151. *TINEA?*, sp.

This insect has lost all the fringes of its wings, so that I cannot recognize its genus. The neuration of the secondaries seems to be exactly that of *Tinea*; but the head is too broad, and the palpi are too long and robust; in coloration and the general form of its wings it is most like *Cerostoma vittella*.

152. *PTEROPHORUS ASPILODACTYLUS*, Walker, Lep. Het. xxx. p. 941. n. 43 (1864).

5. Descriptions of new Land-Shells from Japan and Borneo.
By EDGAR A. SMITH, F.Z.S.

[Received April 15, 1878.]

HELIX (CAMENA) LEWISII.

Testa dextrorsa, conoideo-globosa, subanguste umbilicata, oblique striata, alba, epidermide tenui luteo-olivacea induta, fascia angusta fusca ad peripheriam picta; anfract. 6½, convexiusculi, sensim crescentes, ultimus rotundatus, antice breviter descendens; apertura obliqua, intus alba; perist. undique expansum, margine columellari sordido-roseo tincto, superne late expanso et reflexo.

Diam. max. 35 mill., min. 29; alt. 24.

Hab. Japan (*George Lewis*).

Perhaps the most closely allied Japanese species to this one is *H. miranda*, A. Adams. From it *H. lewisii* differs in having a more conical spire, a narrower umbilicus, finer oblique striæ, and no spiral sculpture.

The oblique striæ at the suture are rather deeply incised and more crowded than on the other parts of the whorls, many of them extending only about a line from the suture and then gradually fading away. The first four whorls differ from the last two in being obliquely punctato-striate, instead of exhibiting an ordinary striation. The brown band is situated a very little above the middle of the body-whorl, and passing just above its suture, is visible on two